

Mission 6 – Instructions for Learners

Please note this Mission is **part of your final assessment** if you are in **Advanced Software Developer** or **UX Designer pathway**. If you are in a different pathway, this Mission must be completed and you will receive feedback, but will not be part of your final assessment.

Scenario:

You work as an IT Professional at Levelup Works, a specialist in kids programming class. Levelup Works is going through a business transformation that adds emphasis to a new set of products and target customers. The company website can be found at <https://www.levelupworks.com>.



Your Mission for this week, should you accept it, is to perform the following tasks.

You are grouped up with other candidates to work on this Mission.

1. Perform specific tasks for your profession in the Appendices. You do not need to complete the tasks for all pathways. Only complete the tasks in the one Appendix relevant to your pathway.
2. Upload your work to <https://mreadyhq.sharepoint.com/:f:/s/General/EuHwBneSeEJAn5fF7xrWb9sBF4azKrXc6npX2zIwrIAZDA?e=HilXUg>
3. At the Show and Tell next week, (as a group) talk everyone through the profession-specific tasks you completed. Between the entire team, you have **15 minutes** in total to talk about all items. You can use PowerPoint slides, Sway or Prezi to help with your presentation.

Appendix A – Tasks for UX Designers

If you are in the UX Designer pathway, your goals for the next two Missions are to design a more appropriate web experience for a group of users.

In this Mission you will focus on Empathise, Define, and Ideation phases for the new UX. In the next Mission you will Prototype and Test both the logo and the new UX.

Complete the following **four (4) tasks** as part of this Mission:

1. Identify stakeholders, create interviewing questions, and perform interviews (these will be role-played with your instructor), identify project objective and requirements. You may need to clarify and acknowledge the client of your project goal on day one. Perform this task as a whole team (including developers).
2. Define the problem by creating a Problem Statement followed by a user story for your team. Your client might share multiple problems. You need to identify and define one of the problems to solve.

The following resource may help:

- Define the Problem <https://www.interaction-design.org/literature/article/stage-2-in-the-design-thinking-process-define-the-problem-and-interpret-the-results> (15 mins)
3. Create a design of the Minimum Viable Product (MVP) of the application for demonstration purpose. Propose a simple prototype design that includes a UI design in Adobe XD or Figma
 4. Work with Developers to provide a project sprint plan for the 2 weeks. Outline the tasks to be covered by the **UX designer** and **Developer** from the Mission start date until the release of product at the end of the 2 weeks. You can use project management tools such as Asana, Monday.com, Trello or Miro to outline your sprint plan.

Appendix B – Tasks for Advanced Software Developers

If you are in the Advanced Software Developer pathway, complete the following **four (4) tasks** as part of the Mission:

1. Identify stakeholders, create interviewing questions, and perform interviews (these will be role-played with your instructor), identify project objective and requirements. You may need to clarify and acknowledge the client of your project goal on day one. Perform this task as a whole team (including UX Designers).
2. Create a prototype database for the application demonstration purpose. The prototype needs to include at least a database table with sample data to be used for the app. You can use any database management system, such as MySQL, PostgreSQL, MongoDB.
3. Work with UX Designers to provide a project sprint plan for the 2 weeks. Outline the tasks to be covered by the **UX designer** and **Developer** from the Mission start date until the release of product at the end of the 2 weeks. You can use project management tools such as Asana, Monday.com, Trello or Miro to outline your sprint plan.

On the following week, Developers will write front end and back end code to create the MVP. The MVP has the following technical requirements:

- Both the application and the database run on the cloud (you can choose any cloud platform), docker, or locally on your laptop
 - Source code is stored on Github
4. Create ANY application of your choice to run on one or more Docker containers. It does not have to be related to the MVP. The following resources may help:
 - MANDATORY Intro to Docker and hands-on <https://www.freecodecamp.org/news/docker-simplified-96639a35ff36/> (1 hour)
 - MANDATORY Build a to-do app on docker <https://webomnizz.com/building-a-todo-app-with-node-js-mongodb-and-docker/> (3 hours)
 - RECOMMENDED Complete docker tutorial for beginners <https://www.youtube.com/watch?v=fqMOX6JhGo> (2 hours)

Appendix C – Tasks for Business Analysts

If you are in the Business Analyst pathway, complete the following **six (6) tasks** as part of the Mission:

1. Understand traditional Requirements Analysis.

The following resources may help:

- Overview of Requirements Analysis <https://www.youtube.com/watch?v=gyXcu78bWis> (20 mins)
2. Based on the business scenario details in the file “Mission 6 business scenario.docx”, draw a Business Process Model (using BPMN) for the current “Acquire a student” process. Make sure you draw a BPM with swimlanes. BPM is a little like User Journey Map but usually used from a business perspective, and encompasses the full process from all users, not just one user.

The following resources may help:

- Business Process Modelling Overview <https://www.youtube.com/watch?v=sscOXEHVE6A> (7 mins)
 - Choose 1:
 - An online business process modelling tool <https://www.bpmn.io>
 - A desktop business process modelling tool <https://www.bonitasoft.com>
 - A generic desktop modelling tool which can draw flowcharts and UML diagrams <https://www.visual-paradigm.com/editions/community/>
3. Identify possible improvements to the “Acquire a student” process.

The following resources may help:

- Business process improvement <http://tfig.unece.org/contents/identify-opportunities-improvement.htm> (10 mins)
4. Draw the new “to-be” process in BPMN.
 5. If the proposed solution requires a new technical system, describe the scope of the new system using a Context Diagram.
 - Depict the scope of a system using Context Diagram <https://www.youtube.com/watch?v=iY7xZ8Nut5A> (8 mins)
 - Online drawing tool <https://www.draw.io>
 6. Prioritise the 4 key issues for LevelupWorks using MoSCoW or Kano Analysis. One criterion you want to consider is the financial impact.

The following resources may help:

- MoSCoW analysis <https://www.youtube.com/watch?v=QfZo9cxnQgY> (5 mins)
- Other than MoSCoW, Purpose Alignment Model can be used to help prioritise your user stories <https://www.alaska.edu/files/pathways/WhitePaperonPurposeBasedAlignmentModel.pdf> (15 mins)
- Kano Analysis is another model you can use to prioritise your user stories <https://www.fieldboom.com/kano-model> (15 mins)

Appendix D – Tasks for Data Analysts

If you are in the Data Analyst pathway, complete the following two (2) tasks as part of the Mission:

1. Tackle the user story: *“As a teacher of LevelupWorks, I want to summarise my student’s grades so that I can find out some insights”.*

Present descriptive statistics from the data. Here is a link to the student data:

[<https://github.com/realpython/materials/tree/master/pandas-gradebook-project>]

The following resources may help:

- Building gradebook in Python <https://realpython.com/pandas-project-gradebook/> (2 hours)
- Introduction to Pandas <https://www.learn datasci.com/tutorials/python-pandas-tutorial-complete-introduction-for-beginners/> (3 hours)

2. Identify at least one potential statistical bias in your data.

The following resources may help:

- Statistical bias: <https://www.skillshare.com/classes/Statistics-Probability-and-Cognitive-Bias-An-Introduction/61521660> (3 hours)

Appendix E - Mission Project Evaluation Form

You are requested to complete this evaluation form before your final presentation of Mission 7. Failing to complete and submit this form will impact your programme completion.

1. What Agile Mindsets and Practices did you use to complete this Mission? Why did you choose these Mindsets Practices? How did you apply them? You must explain your application two (2) mindset and one (1) practice. You must also provide evidence you have applied these (e.g. Trello cards, Kanban board, journal, sprint plan, burndown chart, etc).

2. How did you apply Design Thinking practices to this Mission? Describe which parts of the Design Thinking process you used and explain how these impacted on your decision making. You must also provide evidence you have applied these (e.g. journal, prototype assessment, testing plan etc).

3. What industry standard tools or best practices did you use to solve problems which arose at any stage during the project? Explain the problem, how you used these practices to help you solve problems, and why this is relevant in your chosen professional pathway. You must describe at least two (2) tools or practices. These must be different from those described in question 1.

4. Analyse how your solution meets the requirements of the client's business problem. How does your solution meet the requirements, how have you measured whether you are successful, and what are the limitations of your solution?



Appendix F – Peer Review Form (for Learners)

For **EACH** one of your project team members excluding yourself, complete the following:

Question	Answer
What is your team member's name?	
Did he/she regularly attend meetings?	Yes/No
Did he/she deliver on his/her agreed work in time?	Yes/No
Did he/she demonstrate mutual respect for you and others?	Yes/No
Did he/she communicate his/her ideas clearly with you or the team?	Yes/No
Did he/she allow others to express themselves and try to understand?	Yes/No
Any comments you would like to add:	



Mission 6 – Assessment Marking Rubric

This Mission is part of your final assessment, if you are in the Advanced Software Developer or UX Designer pathway. If you are in a different pathway, this Mission must be completed and you will receive feedback, but will not be part of your final assessment.

Assessed Missions Due Dates

Week 8

Learning Outcomes

At the successful completion of this Mission, you will have achieved these three (3) learning outcomes:

1. Apply agile software delivery and design thinking practices to contribute to the creation of digital technology products in the context of practice
2. Apply industry standard best practices to contribute to the creation of a digital technology product solution in the context of practice
4. Apply effective interpersonal and collaborative skills when working on a project with internal and external stakeholders

Description

The assessment will be based on a portfolio of evidence for this Mission.

Time Allowance

You are allowed 2 weeks to work on Missions 6 and 7.

Resources

You will be provided with Mission Documents. Additional resources will be mentioned in the Mission Documents.

Assessment Method

This Mission will be formally assessed, and is part of your final assessment, if you are in the Advanced Software Developer or UX Designer pathway. If you are in a different pathway, this Mission must be completed and you will receive feedback, but will not be part of your final assessment.

The final portfolio assessment is assessed based on whether you meet the competency statement or not. You must achieve an outcome of “Competent” for ALL components to be awarded the certificate.

Summary of Evidence

A portfolio of evidence which is made up of the following items:

Advanced Software Developer (6 items or more)	UX Designer (9 items)
Output Products or Documents from Tasks <ul style="list-style-type: none"> • Cloud-based demo-application with database • Continuous integration and continuous delivery pipeline • Link to source code / GitHub project • (you may also provide evidence of application e.g. meeting minutes, documentation etc) 	Output Documents from Tasks <ul style="list-style-type: none"> • Stakeholder interview notes • Customer persona(s) • Empathy map • Journey map • Problem Statement • Ideation of Solutions
<ul style="list-style-type: none"> • A completed Project Evaluation Form 	<ul style="list-style-type: none"> • A completed Project Evaluation Form
<ul style="list-style-type: none"> • Completed Peer Review Form(s) for each member of your team (excluding yourself) 	<ul style="list-style-type: none"> • Completed Peer Review Form(s) for each member of your team (excluding yourself)
<ul style="list-style-type: none"> • A group Presentation (maximum 10 mins) 	<ul style="list-style-type: none"> • A group Presentation (maximum 10 mins)

Resubmissions

You must make a genuine attempt at the assessment.

Your Assessor will provide you with feedback on your technical product solution, product demonstration, and team collaboration.

If you have made a genuine attempt but do not meet the standard of “competent” you will be allowed to resubmit your portfolio, or portions of your portfolio, for a re-assessment within 10 days of receiving your initial result.

Missions Assessment Criteria Rubric

This Mission is part of your **final assessment** if you are in the **Advanced Software Developer** or **UX Designer** pathway. If you are in a different pathway, this Mission must be completed and you will receive feedback, but will not be part of your final assessment.

This Assessment Criteria Rubric will help you understand what is expected of you for each Learning Objective of the programme.

The rubric addresses your skills in applying best practices and processes in your chosen profession and your abilities to work well as a member of a team.

You will be assessed based on whether you meet the competency statement or not. You must achieve an outcome of “Competent” for ALL of the competency statements to be awarded the certificate.

PLEASE READ THE ASSESSMENT CRITERIA RUBRIC BELOW CAREFULLY,
TO ENSURE THAT YOUR SUBMITTED PORTFOLIO MEETS ALL THE REQUIREMENTS

Component	Competency Statement	Evidence
1. Apply agile software delivery and design thinking practices to contribute to the creation of digital technology products in the context of practice		
Apply Agile mindset or practices	<p>Demonstrated application of at least two (2) Agile mindsets. Agile mindsets include: people-focus, value-driven, collaborative, and adaptive.</p> <p>Demonstrated application of at least one (1) Agile practice. Agile practices include; kanban, scrum, regular standup, iterative development, sprint planning, or estimation.</p>	<p>Project Evaluation Form</p> <p>Outputs from Tasks (documents or products)</p> <p>Evidence of application (e.g. use of Trello cards, Kanban board, sprint plan, product backlog, burn down chart, etc)</p>
Apply Design Thinking practices	Demonstrated application to the digital solution of at least one (1) part of the design thinking process (empathize, define, ideate, prototype, test)	<p>Project Evaluation Form</p> <p>Output documents from Tasks</p> <p>Evidence of application (e.g. use of journal, prototype assessment, testing plan, etc)</p>
2. Apply industry standard best practices to contribute to the creation of a digital technology product solution in the context of practice		
Apply industry standard best practices to solve problems	<p>Demonstrated application of at least two (2) industry tools and practices to create the solution.</p> <p>Tools and practices must be relevant and appropriate to the solution and the learner's professional pathway.</p> <p>These include, but are not limited to: empathising methods, prototype and testing methods, user flow modelling, business process modelling, data manipulation and modelling, UML, BPMN, Cloud programming, AI programming, DevOps.</p>	<p>Project Evaluation Form</p> <p>Outputs from Tasks (documents or products)</p>



Contribute to delivery of quality solutions	<p>The proposed solution is fit for purpose to solve the business problem specified in the Mission. For example, when asked to design a solution to speed up a process, the proposed solution will need to enable the process to be completed in shorter time.</p> <p>Analyse or test the solution to identify strengths and limitations and/or bugs.</p>	<p>Project Evaluation Form</p> <p>Outputs from Tasks (documents or products)</p> <p>Source Control / GitHub</p>
4. Apply effective interpersonal and collaborative skills when working on a project with internal and external stakeholders		
Effective communication	<p>Oral and written communications are logical and easy to follow.</p> <p>Demonstrate appropriate use of words, diagrams or props to enhance explanations.</p>	<p>Project Evaluation Form</p> <p>Presentation</p>
Effective collaboration	<p>Regularly attended and contributed to team meetings, maintained regular communications with the team.</p> <p>Respectfully interacted with and demonstrated clear intent to understand others.</p> <p>Contributed a fair share to a team project.</p>	<p>Peer evaluation (Teamwork)</p> <p>Assessor evaluation (Teamwork)</p> <p>Developers only: Source Control / GitHub</p>